Amendments to the Claims:

Please cancel claims 57 and 67 without prejudice or disclaimer.

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1-55 (cancelled)

56. (amended) An isolated nucleic acid molecule selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1 or the complete complement thereof;

(b) an isolated nucleic acid molecule having at least ~~about~~ 85% nucleotide sequence identity with the entire contiguous open reading frame of SEQ ID NO: 1 and encoding a protein with p70β S6 kinase activity; and

(c) an isolated nucleic acid molecule which encodes a protein comprising the amino acid sequence of SEQ ID NO: 2.

57. (cancelled)

58. (amended) An isolated nucleic acid molecule which encodes a fragment of a protein comprising the amino acid sequence of SEQ ID NO: 2 wherein the fragment retains ~~the same activity as a protein comprising the amino acid sequence of SEQ ID NO: 2~~ p70β S6 kinase activity.

59. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule comprises nucleotides 77-1561 of SEQ ID NO: 1.

60. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 77-1561 of SEQ ID NO: 1.

61. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 77-1564 of SEQ ID NO: 1.

62. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule comprises nucleotides 116-1561 of SEQ ID NO: 1.

63. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 116-1561 of SEQ ID NO: 1.

64. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule consists of nucleotides 116-1564 of SEQ ID NO: 1.

65. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule contains a nucleotide substitution at a position corresponding to nucleotides 1277, 1278 or 1279 of SEQ ID NO: 1.

C1 cont.

66. (previously presented) The isolated nucleic acid molecule of claim 56, wherein the nucleic acid molecule encodes a protein comprising an aspartic acid substitution for threonine at amino acid 401 of SEQ ID NO: 2.

67. (cancelled)

68. (amended) The isolated nucleic acid molecule of any one of claims ~~56-66~~ 56 and 58-66, wherein the nucleic acid molecule is operably linked to one or more expression control elements.

69. (amended) A vector comprising the isolated nucleic acid molecule of any one of claims ~~56-66~~ 56 and 58-66.

70. (amended) A host cell transformed to contain the nucleic acid molecule of any one of claims ~~56-66~~ 56 and 58-66.

71. (previously presented) A host cell comprising the vector of claim 69.

72. (previously presented) The host cell of claim 70, wherein said host cell is selected from the group consisting of prokaryotic hosts and eukaryotic hosts.

73. (previously presented) A method for producing a protein comprising the step of culturing a host cell of claim 70 under conditions in which the protein encoded by the nucleic acid molecule is expressed.

74. (withdrawn) A method of determining whether a cell expresses aberrant cellular levels of a nucleic acid molecule of claim 56 comprising:

(a) determining the level of expression of said nucleic acid molecule in a test cell; and

(b) comparing said level of expression to a control, wherein change in expression compared to the control indicates aberrant expression.

C1 cont.

75. (withdrawn) The method of claim 74, wherein the level of expression is determined by measuring the level of mRNA.

76. (withdrawn) The method of claim 74, wherein the cell is human.

77. (withdrawn) The method of claim 74, wherein said cell is from a tissue selected from the group consisting of heart, brain, placenta, lung, liver, skeletal muscle, kidney, pancreas, spleen, thymus, prostate, testis, ovary, small intestine, colon or leukocytes.

78. (withdrawn) The method of claim 74, wherein the change in expression is an increase in expression.

Summary of the Office Action

1. The lack of unity previously applied was deemed proper by the Examiner and made final.

2. Claims 56-58 and 68-73 were rejected under 35 U.S.C. 112 (second paragraph) for being indefinite.

3. Claims 56-57, 65 and 67-73 were rejected under 35 U.S.C. 112 (first paragraph) as failing to comply with the written description requirement.

4. Claims 59-64 and 66 were indicated to be allowable over the prior art but were objected to since they depend upon rejected claim 56.

Response to the Office Action

The Office Action dated May 20, 2003 has been carefully reviewed and the following amendments and comments are made in response. In view of the above amendments and following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Rejections under 35 U.S.C. 112 (second paragraph)

Claims 56-58 and 68-73 were rejected under 35 U.S.C. 112 (second paragraph) purportedly for being indefinite. Claim 56 was rejected for use of the term "complement thereof" as potentially encompassing a complementary fragment. Applicants have amended this claim to read upon the "complete complement" and therefore request withdrawal of the rejection. Claim 56 was also rejected for use of the term "about" as rendering the claim indefinite. Applicants have removed this term from the claim and therefore request withdrawal of this rejection.

Claims 57-58 were rejected for recitation of "retains the same activity as a protein comprising the amino acid sequence of SEQ ID NO: 2" for being unclear. Applicants have cancelled claim 57 without prejudice or disclaimer and with the recognition that the same subject matter is encompassed within the pending independent claims, therefore the rejection is moot with regard to this claim. In claim 58, Applicants have replaced this language with the term "retains p70β S6 kinase activity" to better define the claimed invention. In light of the amendment, Applicants request withdrawal of the rejection.

Claim 57 was rejected for the langauage "nucleic acid molecule which encodes a protein comprising the amino acid sequence of SEQ ID NO: 2, wherein the protein contains one or more amino acid substitutions" as being indefinite. Without acquiescing to the merits of the rejection, Applicants

have cancelled this claim for the sole purpose of furthering prosecution and therefore submit that the rejection is moot.

Rejections under 35 U.S.C. 112 (first paragraph)

Claims 56-57, 65 and 67-73 were rejected under 35 U.S.C. 112 (first paragraph) for purportedly failing to comply with the written description requirement and for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time that the application was filed, had possession of the claimed invention.

Claim 57 has been cancelled without prejudice or disclaimer as discussed above. Claim 67 has also been cancelled without prejudice or disclaimer because the subject matter of this claim has been incorporated into claims 56 and 58. The rejections of these claims are therefore moot and should be withdrawn.

With regard to claim 56, the Examiner's concern appears to be that the claims may "encompass polynucleotides of many unknown functions" (see Office Action at page 7, lines 13-14). Applicants have amended this claim so that it now encompasses a nucleic acid with 85 percent sequence identity to SEQ ID NO: 1 and encodes a protein with p70β S6 kinase activity. p70β S6 kinase activity is defined in the specification as phosphorylation of ribosomal protein S6 (see for example, Example 3 on page 38). Applicants bring to the attention of the Examiner that the specification discloses multiple examples of nucleic acids which encode variants of SEQ ID NO: 2 and retain p70β S6 kinase activity (see for example, Example 8 on page 44). While the Examiner purports that small structural changes may lead to major changes in function, nucleic acids encoding proteins with such structural changes will not be encompassed in amended claim 56 because they do not meet all the limitations of the amended claim (*i.e.*, retain p70β S6 kinase activity).

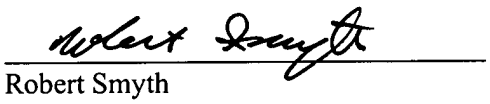
With regard to claim 65, it is unclear to the Applicants why the Examiner has indicated that claim 66 is allowable but claim 65 is rejected. The subject matter of claim 65 is substitution of nucleotides in the codon encoding the amino acid residue at position 401 of SEQ ID NO: 2 which is the subject matter of claim 66. More specifically, the substitutions at positions 1277, 1278 and 1279 in claim 65 are necessary to create the variation at position 401 (aspartic acid for threonine) in claim 66. Furthermore, experimental data utilizing the protein encoded by the nucleic acid with these substitutions is disclosed in the specification in Example 8. Applicants therefore request withdrawal of the rejection with regard to claim 65.

Conclusion

Applicants respectfully request reconsideration of the subject application in view of the amended claims and the above remarks. It is respectfully submitted that this application is now in condition for allowance. Should the Examiner believe it to be useful, an interview with the Examiner is respectfully requested in order to discuss the foregoing claims.

Except for issue fees payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application, including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

Respectfully submitted
Morgan, Lewis & Bockius LLP



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Dated: **August 20, 2003**
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